

Commonwealth Edison Company
LaSalle Generating Station
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December 16, 1999

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

LaSalle County Station, Unit 2
Facility Operating License No. NPF-18
NRC Docket No 50-374

Subject: Licensee Event Report

In accordance with 10 CFR 50.73(a)(2)(iv), Commonwealth Edison (ComEd) Company is submitting Licensee Event Report #99-003-00, Docket No. 050-374.

Should you have any questions concerning this letter, please contact Mr. Frank A. Spangenberg, III, Regulatory Assurance Manager, at (815) 357-6761, extension 2383.

Respectfully,

A handwritten signature in black ink, appearing to read "J. A. Benjamin", with a long horizontal flourish extending to the right.

Jeffrey A. Benjamin
Site Vice President
LaSalle County Station

Attachments: Licensee Event Report

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - LaSalle County Station

JE22

PDL ADDN 05006374

LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1): LaSalle County Station, Unit 2

DOCKET NUMBER (2) 05000374

PAGE (3)
1 of 3

TITLE (4) Manual Reactor Scram Due to Electro-Hydraulic Control System Failure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	16	99	99	003	00	12	16	99	FACILITY NAME	DOCKET NUMBER

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

OPERATING
MODE (9)
POWER
LEVEL (10)

1

100

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2003(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2003(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 73.71
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2003(a)(4)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> OTHER
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	Specify n Abstract below or in NRC Form 366A
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

Danny Bost, Site Engineering Manager

TELEPHONE NUMBER (Include Area Code)

(815) 357-6761 Extension 2208

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	JJ	ECBD	G084	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

☐ YES

(If yes, complete EXPECTED SUBMISSION DATE)

☒ NOEXPECTED
SUBMISSION
DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines 16)

On November 16, 1999, at 1834 hours, Unit 2 operators manually scrambled the reactor from approximately 80 percent power due to the unexpected fast closure of the Main Turbine Combined Intercept Valves. The cause of the unexpected fast closure was subsequently identified as a failure of the intercept valve amplifier card and operational amplifier card in the electro-hydraulic control (EHC) circuitry.

The safety significance of this event was minimal. All control rods fully inserted and all systems responded as expected to the scram. The Emergency Core Cooling Systems were not challenged.

The failed cards were replaced and sent to General Electric for failure analysis. The new cards were calibrated, and Unit 2 was returned to full power on November 20, 1999.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
LaSalle County Station, Unit 2	05000374	99	003	00	2 of 3

(If more space is required, use additional copies of NRC Form 366A)(17)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor, 3323 Megawatts Thermal Rated Core Power

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

A. CONDITION PRIOR TO EVENT

Unit(s): 2 Event Date: 11/16/99 Event Time: 1834 Hours
Reactor Mode(s): 1 Power Level(s): 100
Mode(s) Name: Run

B. DESCRIPTION OF EVENT

On November 16, 1999, at 1830 hours, with Unit 2 at 100 percent power, "Turbine Intercept Valve Fast Closure" and "EHC Malfunction" alarms were received in the main control room. The control room operators observed that main turbine combined intercept valves (CIV) 4, 5, and 6 had closed, and valves 1, 2, and 3 were partially closed. Generator output began to decrease due to reduced steam flow through the CIVs, opening of the cross-around relief valves, and tripping of the feedwater heaters, all of which are expected conditions following a fast closure of the CIVs at power. The control room operators began to reduce reactor recirculation flow and at 1834 hours, the Control Room Unit Supervisor ordered a manual reactor scram.

All control rods fully inserted, all systems responded as expected to the scram, and the Emergency Core Cooling Systems were not challenged. Reactor water level reached minus 13 inches during the transient. A Level 3 Primary Containment Isolation Signal (PCIS) [JM] was received at plus 12.5 inches reactor water level, which resulted in a Group 6 and Group 7 isolation. The affected isolation valves were the Residual Heat Removal (RHR) [BO] Shutdown Cooling valves, RHR Heat Exchanger Blowdown valves, and Transversing In-core Probe isolation valves, all of which were already in their normally closed position.

Troubleshooting following the event identified the cause of the intercept valve fast closure as a failure of two cards in the electro-hydraulic control (EHC)[JJ] system. These cards were replaced, and the new cards calibrated. The main turbine, intercept valves, heater bay, and the EHC skid were walked down, and no discrepancies or anomalies resulting from the event were noted. Unit 2 was returned to full power on November 20, 1999.

This event is reportable under 10 CFR 50.73 (a)(2)(iv) as an event or condition that resulted in a manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS).

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
LaSalle County Station, Unit 2	05000374	99	003	00	3 of 3

(If more space is required, use additional copies of NRC Form 366A)(17)

C. CAUSE OF EVENT

The cause of the event has been determined to be spurious fast closure of the Turbine Combined Intercept Valves caused by a malfunction of the EHC Intercept Valve Amplifier and Operator Amplifier cards. These cards have been sent to General Electric for failure analysis. The cause of the EHC card failures will be determined based on the results of the failure analysis.

D. SAFETY ANALYSIS

The safety significance of this event was minimal. All control rods fully inserted and all systems responded as expected to the scram. The Emergency Core Cooling Systems were not challenged.

E. CORRECTIVE ACTIONS

1. The Intercept Valve Amplifier and its associated Operational Amplifier Card (A50 and A51) in the EHC Control Circuitry have been replaced, and the new cards have been calibrated (complete).
2. The failed EHC cards have been sent to General Electric for failure analysis. When the failure analysis report is received, corrective actions will be evaluated and implemented as required (ATM# 19424-14).

F. PREVIOUS OCCURRENCES

A review of Licensee Event Reports submitted in the last five years identified no previous occurrences of this event.

G. COMPONENT FAILURE DATA

General Electric (GE) - Intercept Valve Amplifier circuit board
- Model Number 118D1517G3, Sequence Number 8947

General Electric (GE) - Integrated Circuit Operational Amplifier circuit board
- Model Number 125D5788G1